# Variola Major (smallpox)

Note: Smallpox is a disease where all vesicles are at the same stage of development.

Presentation:

1. 24 yr old with chickenpox-like rash. 4 days earlier, he had developed sudden onset of fever, severe headache, back pain (which resolved when the rash started)
2. PE: paulovesicular lesions noted mostly on face and extremities (including palms and soles).
3. lesions filled with thick opaque fluid and all appeared to be at a similar stage of development.
4. Differential: Chicken pox reinfection is unlikely and is more prominent on the trunk. Herpes doesn’t disseminate in normal adult.

Variola Major (smallpox)

1. large, complex, linear-double stranded DNA virus easily distinguished from HSV and VZV by having a dumbbell shaped core and a complex membrane system
2. vaccinia virus is related and used for vaccine due to similar antigenicity.
3. Must rule out chickenpox and then conduct proper testing via CDC lab response network using PCR for variola.

Epidemiology

1. smallpox was eradicated many years ago, thus a case today would be an intentional act (bioterrorism).
2. last case was reported in 1977 in Somalia. Declared eradicated in 1980.
3. humans are the only natural hosts.
4. Smallpox is not hardy and is killed by sunlight and heat.
5. Acquired by inhalation of respiratory droplets from infected person or direct contact with that person.
6. Can be exposed through aerosol release of smallpox🡪 secondary exposure through prolonged face-to-face contact with infected person (or contact with their bodily fluids).

Pathogenesis

1. incubation period of 7-17 days🡪 then become febrile with flu-like symptoms (backache, headache, vomiting).
2. 2-3 days later🡪 rash develops on oropharyngeal mucosa and face. At this point, patient is infectious, but some may be contagious before onset of fever during the prodrome phase.
3. person is infectious until the last scab falls off.

Treatment: no treatment, may be helped by IV fluids and antibodies for secondary infections.

Prevention: vaccine not routine- but used for “first responders” for potential terror use. Vaccine is effective even a few days after exposure. Isolate anyone exposed for 18 days.